



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/600,729 | 06/20/2003 | Reinhard Knuth | 17128.002001 | 5900 |
| 7590 | 10/25/2005 | | EXAMINER | |
| John W. Montgomery OSHA & MAY L.L.P. 1221 McKinney Street Suite 2800 Houston, TX 77010 | | | | SOLAK, TIMOTHY P |
| | | ART UNIT | PAPER NUMBER | 3746 |
| DATE MAILED: 10/25/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

TUE

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/600,729 | KNUTH ET AL. | |
| | Examiner | Art Unit | |
| | Timothy P. Solak | 3746 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 June 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-20 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 20 June 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification (see paragraph 0003, line 1) is not a proper information disclosure statement. (See 37 CFR 1.98(b).) The Examiner has however, considered and cited DE 8406203 on form PTO-892. No further action by applicants is required.

Specification

The disclosure is objected to because of the following informalities:

- The incorporation of essential material in the specification by reference to a foreign application or patent is improper (see page 1, line 2). This includes the priority document. Applicant is required to amend the disclosure to include the material incorporated by reference, or delete the phrase "incorporated herein by reference". See 37 CFR 1.57(f).
- Recitation of "an pump" in paragraph 0002, line 1, would be clearer if rewritten --a pump--.
- Recitation of "the opposite ends" in paragraph 0002, line 2, would be clearer if rewritten --opposite ends--.

Appropriate correction is required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --Tube Coupling for a Peristaltic Pump--.

Claim Objections

Claims 1-9 are objected to because of the following informalities:

- * Recitation of "the longitudinal axis" in Claim 1, lines 9-10, would be clearer if rewritten --a longitudinal axis--.
- * Recitation of "the associated transition piece" in Claim 1, line 7, would be clearer if rewritten --an associated transition piece". (See "the other transition piece" in Claim 6.)
- * Recitation of "the holder" in Claims 3-4, line 1, would be clearer if rewritten --the at least one holder--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Knuth (5,242, 279). Knuth teaches an infusion pump 40 comprising: a pump hose 17 having two transition pieces 12/14 at opposite ends, a pump finger mechanism 43 contained within a housing (not labeled but clearly seen on either side of fingers 43) equipped with two holders 35/36 for fastening the two transition pieces and a door 42 forming a counter bearing for supporting the pump hose. Knuth further disclose at least one of the holders mates with an associated transition piece via at least a combination of an oblique pin provided at the holder and an oblique hole provide in the transition piece (column 3, lines 59-63); said pin and hole being inclined the same with respect to a longitudinal axis of the placed pump hose (see character 35 in Figure 5). Knuth further teaches the at least one holder has two parallel oblique pins and the associated transition piece has two parallel holes (see Figure 2). Knuth further teaches another transition piece comprises a locking clamp 23/25 engaging over a web 36 of the housing (column 6, lines 1-15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth (previously mentioned), in view of Archibald (4,391,600). Although Knuth teaches most of the limitations of the claim, including a pump housing having pins and a door, he does not disclose the door having recesses for receiving the ends of the pins. Archibald, disclosing a tubing pump,

specifically teaches a door 18 having recesses for receiving alignment pins 50/48 (see Figure 16). It was old and well known in the art of pump fabrication that ordinary recess over pins advantageously facilitated positioning of elements. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the door equipped with recesses taught by Archibald, in the pump disclosed by Knuth, to have advantageously facilitated positioning of the door.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth (previously mentioned), in view of Menheere (5,182,954). Although Knuth teaches most of the limitations of the claim, including a tube, he does not disclose a color strip on the tube. Menheere, disclosing a tube element, specifically teaches a colored strip 12 running down a tube 8 (column 1, lines 60-63). Menheere teaches the colored strip advantageously facilitated orientation (column 2, lines 17-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the colored strip taught by Menheere, in the pump disclosed by Knuth, to have advantageously facilitated orientation.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knuth (previously mentioned), in view of Rix (0,255,335) with respect to Claims 1-4 and 6; in further view of Archibald (previously mentioned) with respect to Claim 5 and Menheere (previously mentioned) with respect to Claim 7. Although Knuth teaches most of the limitations of the claims, including a hose having a transition piece, he does not disclose the transition piece to have hinged flanges and a tubular pin. Rix, disclosing a hose transition, specifically teaches a

length of hose (A) having a transition comprising two half shells (D) connected by a hinge portion (J) and a tubular pin (B) projecting from the hinge portion. Rix further discloses the half shell pieces have flanges (F/E) adapted to be abutted against (page 1, lines 45-51) and connected with each other; the flanges clampingly enclosing an end length of the hose slipped on the tubular pin (see Figure 1). Rix teaches the hinged flanges and tubular pin advantageously secured a coupling to a hose (page 1, lines 8-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the hinged flanges and tubular pin taught by Rix, in the pump disclosed by Knuth, to have advantageously secured a coupling to a hose.

With respect to the limitations directed towards the flanges abutting, although Rix teaches most of the limitations of the claims, including the two flange portions adapted to be abutting each other (*Rix teaches that each channel portion (E) encompasses one half of the hose; page 1, lines 40-45*), he does not explicitly disclose the flanges abutting. The flange portion disclosed by Rix encompasses both the lugs (F) and extension portions (E). With respect to the limitations directed toward the desired results of the apparatus such as the flanges abutting each other, whether the apparatus is actually used in such a manner is dependent upon the performance or nonperformance of a future act of use and not upon a particular structural relationship set forth in the claim. More specifically, whether or not the flanges disclosed by Rix, as well as by the instant invention, abut is dependent on the size of the hose. Further it was old and well known in the art of pump fabrication, if each extension (E) disclosed by Rix encompasses half of the hose than mathematically they have to abut. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have

abutted the flanges (FE) taught by Rix, to have advantageously complied with the laws of mathematics.

With respect to Claim 9, and the limitations directed toward "integral", the unity or diversity of parts depend on the choice of manufacturer and the convenience and availability of the machines and tools necessary to construct the pump.

With respect to the limitations directed towards "plastic", the combination of prior art has established the structural limitations of hinged flanges and tubular pin, where a limitation is rejected over a structure that appears to be identical, although made of a different material, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two.

Therefore, it would have been obvious to one of ordinary skill in the art of pump fabrication at the time the invention was made to have made the hinged flanges and tubular pin of integral plastic, in the pump disclosed by Knuth, to have advantageously facilitated manufacturing of the pump.

Claims 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rix (previously mentioned). Rix teaches a length of hose (A) having a transition comprising two half shells (D) connected by a hinge portion (J) and a tubular pin (B) projecting from the hinge portion. Rix further discloses the half shell pieces have flanges (F/E) adapted to be abutted against (page 1, lines 45-51) and connected (G) with each other; the flanges clampingly enclosing an end length of the hose slipped on the tubular pin (see Figure 1). Rix further teaches each half-shell defines a tunnel portion (E) (page 1, lines 40-45, see Figure 4) aligned with each

other to form a channel sized for clamping engagement with an end of a tube. Rix further discloses an opening (not labeled but clearly seen in Figure 5 around the internally threaded opening in flange L) sized to receive a tubing sealingly attached to the opening (page 1, lines 17-23), said opening interconnecting through the hinge to the tubular pin so that a tubing received in the opening is in fluid communication with a hose slipped onto the pin.

Although Rix teaches most of the limitations of the claims, including the two flange portions adapted to be abutting each other (*Rix teaches the each channel portion (E) encompasses one half of the hose; page 1, lines 40-45*), he does not explicitly disclose the flanges abutting. The flange portion disclosed by Rix encompasses both the lugs (F) and extension portions (E). With respect to the limitations directed toward the desired results of the apparatus such as the flanges abutting each other, whether the apparatus is actually used in such a manner is dependent upon the performance or nonperformance of a future act of use and not upon a particular structural relationship set forth in the claim. More specifically, whether or not the flanges disclosed by Rix, as well in the instant invention, abut is dependent on the size of the hose. Further it was old and well known in the art of pump fabrication, if each extension (E) disclosed by Rix encompasses half of the hose than mathematically they have to abut. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have abutted the flanges (F/E) taught by Rix, to have advantageously complied with the laws of mathematics.

With respect to Claims 14-15 and 17, and the limitations directed toward "integral", the unity or diversity of parts depend on the choice of manufacturer and the convenience and availability of the machines and tools necessary to construct the pump.

With respect to the limitations directed towards "plastic" and "plastic welding", the combination of prior art has established the structural limitations of hinged flanges and a tubular pin, where a limitation is rejected over a structure or process that appears to be identical, although made of a different material or by a different process i.e. plastic welding, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two.

Therefore, it would have been obvious to one of ordinary skill in the art of pump fabrication at the time the invention was made to have made the hinged flanges and tubular pin of integral plastic, in the pump disclosed by Knuth, to have advantageously facilitated manufacturing of the pump.

With respect to Claim 16 and the hardness of the coupling, in order for the hose disclosed by Rix to slip on the pin, the coupling has to be harder than the tube. Therefore Rix is inherently teaching the coupling is harder than the hose. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have coupling harder than the hose, in the pump disclosed by Rix, to have advantageously slip the hose on the pin.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Briggs et al. (6,261,262) teach a peristaltic pump having a tube with transitions.
- Bierman (6,224,571) teaches a folding transition (see Figure 5).

- Fisher (4,270,777) teaches a transition with arms.
- Pohle (5,983,949) teaches color-coding to identify twisting.
- Jepson et al. (6,213,996) teach a tubing transition having hinged arms and a tubular pin.
- Pittman (0,911,267) teaches a coupling having abutting arms.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P. Solak whose telephone number is 571 272-4833. The examiner can normally be reached on Monday through Friday from 10:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571 272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy P. Solak
Examiner
Art Unit 3746
October 22, 2005